REMARKS

Claims 19-24 are currently pending in the present application.

Claims 1-11 and 14-18 have been canceled, without prejudice to the filing of one or more divisional applications directed to the subject matter thereof, pursuant to the Restriction Requirement set forth in the Office Action dated June 18, 2008. Additionally, original claims 12 and 13 have been canceled, without prejudice, and replaced with new claims 23 and 24, solely in order to remove the original dependency reference to claims 1 and 11 which have been canceled herein. Applicants respectfully submit that the amendments made herein (*i.e.*, replacing original claims 12 and 13 with new claims 23 and 24) introduces no new matter. New claims 23 and 24 are fully supported by the Specification and original claims 12 and 13. Additionally, a complete listing of all claims ever presented is set forth herein in accordance with 37 CFR §1.121(c)(1). Accordingly, entry and consideration of the amendments made herein are proper and respectfully requested.

In the Office Action, the Examiner sets forth three separate obviousness rejections under 35 U.S.C. §103(a). Specifically, the Examiner rejects claims 13 and 19 as being obvious over U.S. Patent Application Publication No. 2001/0001401 of Segal ("Segal"), in view of U.S. Patent No. 5,868,876 of Bianco, *et al.* ("Bianco"). Additionally, the Examiner rejects claims 20 and 21 under 35 U.S.C. §103(a), as being obvious over U.S. Patent No. 3,622,824 of Atlee, in view of Segal and Bianco. Finally, the Examiner rejects claims 12 and 22 as being obvious over Atlee, in view of Segal, Bianco and U.S. Patent No. 3,136,907 of Kieffer, *et al.* In each of the three obviousness rejections, the Examiner relies upon the teachings of the Segal reference to support his contention that the cited combination, namely Segal, teaches a method of making a plate wherein the plate is made by thermally treating a workpiece and subjecting it to thermomechanical forces in a first direction and thermally treating the workpiece in a second

direction which is different from the first, followed by a recrystallizing heat treatment. The Examiner argues in each instance that this process is the same as Applicants' claimed process and further notes that the radial strength measurements of at least about 60 ksi upon exposure to a temperature of about 1600° C would thus be inherent based on the similarities in the processes. Applicants respectfully traverse each of the Examiner's obviousness rejections and the arguments and contentions set forth in support thereof for at least the following reasons.

Applicants submit that the process disclosed in Segal is not the same as Applicants' cross-directional working process for producing the molybdenum plates of Applicants' claimed invention. Most notably, Segal describes a process wherein a metal workpiece is upset forged along one axis and is then rolled in multiple directions, which rolling directions are perpendicular to both one another and the axis of upset forging. (*See*, Segal, ¶ [0038]). While the mutually perpendicular directions employed in the multiple rolling procedures of Segal are clearly described in paragraph 38, the perpendicular nature of the rolling operations in comparison to the initial upset forging is even more clear from a review of the Figures set forth in the Segal application. For example, it can be seen from Figures 3 and 4, that the upset forged workpiece is fed through the thickness-reducing rollers in a direction such that the compressive strength (*i.e.*, the thickness reduction) is in a direction perpendicular to the upset forging process originally performed on the metal workpiece.

In contrast to the processes and articles described in Segal, Applicants' claimed invention is directed to cross-directionally worked molybdenum plates wherein the molybdenum material is thermally treated by subjecting the workpiece to thermomechanical forces in a first direction and the resulting second workpiece is thermally treated by subjecting it to thermomechanical forces in a second direction which is different from the first.

However, it must be noted that the thermal mechanical forces applied in the first and second thermal treatment steps of Applicants' inventive process, while in directions different from one another, ***are along the same axis***. This can most readily be seen from a review of the Figures of Applicants' Specification. Particularly, with reference to Figures 2(a) and 2(b), and the accompanying text describing said Figures at page 7, lines 15-22 of the Specification, it can be seen that the workpiece (*e.g.*, reference numeral 10) is compressed in a direction which is different than the original direction of extrusion shown in Figure 1, but which is importantly ***along the same axis*** of the original extrusion.

As discussed in Applicants' Specification, for example, at page 8, lines 21-27, the plates made in accordance with Applicants' invention have high temperature properties including, for example, radial strength of at least about 60 ksi upon exposure to a temperature of 1600° C. As discussed in the Background section of Applicants' Specification, for example, at page 2, lines 11-14, known processes for making such x-ray plate targets provide products with poor uniform grain size properties and/or poor temperature properties. Thus, the efficient production of such x-ray targets exhibiting both uniform grain size and improved temperature properties would be advantageous. As noted in Applicants' Specification, the processes described therein for producing the x-ray target plates of Applicants' invention provide targets which exhibit both uniform grain size and the significantly improved radial strength properties at high temperatures.

As Segal clearly indicates the use of multiple (*i.e.*, "two or four") perpendicular rolling operations for the express purpose of spreading the workpiece out into a circular shape, and the rolling is carried out in a direction along an axis perpendicular to the initial upset forging, it cannot reasonably be said that Segal teaches or suggests the processes described in Applicants' Specification for making the claimed x-ray target plates. In other words, the multiple mutually

perpendicular processes of Segal do not teach or suggest Applicants' process wherein the first and second thermal treatment are carried out in different directions along the same axis.

Moreover, given the lack of any teaching in Segal or the secondary references as to insuring that such multiple thermal treatments are carried out in a direction along the same axis, it cannot reasonably be said that one of ordinary skill in the art would be motivated to make such a change, much less with any expectation of improving the radial strength of the resulting plates.

Accordingly, Applicants respectfully submit that the cited combinations of references do not satisfy the criteria necessary to establish *prima facie* obviousness. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

Applicants respectfully submit that all pending claims patentably distinguish over the art of record. Withdrawal of the rejections and a Notice of Allowance are respectfully requested.

Respectfully submitted,

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By: _____

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